



IFW

Docket No.: 0690-0126PUS1  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Oliver WAGNER et al.

Application No.: 10/563,222

Confirmation No.: 1071

Filed: January 4, 2006

Art Unit: 1614

For: ARYL-CONDENSATED 3-ARYLPYRIDINE  
COMPOUNDS AND USE THEREOF FOR  
CONTROLLING PATHOGENIC FUNGI

Examiner: Not Yet Assigned

**L E T T E R**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Subsequent to the filing of the above-identified application on January 4, 2006, attached hereto is an English translation of the International Preliminary Examination Report (Form PCT/IPEA/409) that should be made of record in the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: July 31, 2006

Respectfully submitted,

By \_\_\_\_\_  


Andrew D. Meikle  
Registration No.: 32,868  
BIRCH, STEWART, KOLASCH & BIRCH, LLP  
8110 Gatehouse Road  
Suite 100 East  
P.O. Box 747  
Falls Church, Virginia 22040-0747  
(703) 205-8000  
Attorney for Applicant

Attachment(s)

Birch, Stewart, Kolasch & Birch, LLP

ADM/mao

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

Date of mailing (day/month/year)  
22 June 2006 (22.06.2006)

Applicant's or agent's file reference  
M/44192-PCT

International application No.  
PCT/EP2004/007924

To:

POHL, Michael  
Reitstötter, Kinzebach & Partner (GbR)  
Ludwigsplatz 4  
67059 Ludwigshafen  
ALLEMAGNE

Patentanwälte  
Reitstötter, Kinzebach & Part.

Eing. 28. Juni 2006 bearbeitet

Ludwigsplatz 4, D-67059 Ludwigshafen

**IMPORTANT NOTIFICATION**

Applicant  
BASF AKTIENGESELLSCHAFT et al

## 1. Transmittal of the translation to the applicant.

- The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).
- The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Faxsimile No.+41 22 740 14 35

Authorized officer

Ellen Moyse

Faxsimile No.+41 22 338 89 75

**PATENT COOPERATION TREATY****PCT****INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference M/44192-PCT	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/EP2004/007924	International filing date (day/month/year) 15 July 2004 (15.07.2004)	Priority date (day/month/year) 18 July 2003 (18.07.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant <b>BASF AKTIENGESELLSCHAFT</b>			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 10 sheets, including this cover sheet.
- In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.
3. This report contains indications relating to the following items:
- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Box No. I   | Basis of the report   |
| <input checked="" type="checkbox"/> Box No. II  | Priority  |
| <input checked="" type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input checked="" type="checkbox"/> Box No. IV  | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V   | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI             | Certain documents cited   |
| <input type="checkbox"/> Box No. VII            | Certain defects in the international application  |
| <input type="checkbox"/> Box No. VIII           | Certain observations on the international application   |
4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

		Date of issuance of this report 12 June 2006 (12.06.2006)
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer	
Faxsimile No. +41 22 740 14 35	Telephone No. +41 22 338 89 75	

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)
Applicant's or agent's file reference <b>M/44192-PCT</b>		FOR FURTHER ACTION See paragraph 2 below
International application No. <b>PCT/EP2004/007924</b>	International filing date (day/month/year) <b>15.07.2004</b>	Priority date (day/month/year) <b>18.07.2003</b>
International Patent Classification (IPC) or both national classification and IPC		
Applicant <b>BASEF AKTIENGESELLSCHAFT</b>		

## 1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

## 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/FP	Authorized officer
Facsimile No.	Telephone No.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
**PCT/EP2004/007924**

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 

This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material
 

a sequence listing  
 table(s) related to the sequence listing
  - b. form of material
 

in written format  
 in computer readable form
  - c. time of filing/furnishing
 

contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

In the present opinion reference is made to the following documents (D); the same numbering will be used throughout the procedure:

D1: EP 275 520

D2: CHEN J ET AL: "SYNTHESIS OF SOME BENZOFURONAPHTHYRIDINES AND BENZOFURONAPHTHYRIDINE DERIVATIVES" JOURNAL OF HETEROCYCLIC CHEMISTRY, vol. 30, no. 4, (1993), pages 909-912,

D3: WAMHOFF H ET AL: "EINE EINFACE SYNTHESE VON PYRIDOU-1,2-APYRIMODINEN SOWIE VON DI-, HEXA- UND OCTAHYDRO-1,8-NAPHTYRIDINEN AUS 2-AMINO-3-ETHOXCARBONYL-1,4,5,6-TETRAHYDROPYRIDIN BZW. 2-AMINO-NICOTINSAURE-ETHYLESTER" CHEMISCHE BERICHTE, vol. 111, no. 7, 1978, pages 2813-2824

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY		International application No. PCT/EP2004/007924
Box No. I	Basis of this opinion	
D4 : US-A-5 801 183		

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITYInternational application No.  
PCT/EP2004/007924

Box No. II Priority	
<p>1. <input checked="" type="checkbox"/> The following document has not yet been furnished:</p> <p><input checked="" type="checkbox"/> copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)). <input type="checkbox"/> translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).</p> <p>Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.</p> <p>2. <input type="checkbox"/> This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.</p> <p>3. Additional observations, if necessary:</p>	

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/007924

**Box No. III****Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- the entire international application  
 claims Nos. 17

because:

- the said international application, or the said claims Nos. \_\_\_\_\_ relate to the following subject matter which does not require an international preliminary examination (specify):

Claims which relate to inventions for which no international search report has been established are not subject matter of the written opinion of the international search report (PCT Rule 43bis.1(b) in conjunction with PCT Rule 66.1(e)).

The present opinion therefore only relates to the first invention [see item IV hereinbelow, claims 1-16].

- the description, claims or drawings (*indicate particular elements below*) or said claims Nos. \_\_\_\_\_ are so unclear that no meaningful opinion could be formed (specify):

- the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported by the description that no meaningful opinion could be formed.

- no international search report has been established for said claims Nos. 17

- the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form  has not been furnished

does not comply with the standard

the computer readable form  has not been furnished

does not comply with the standard

- the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

- See Supplemental Box for further details.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITYInternational application No.  
PCT/EP2004/007924

## Box No. IV Lack of unity of invention

1.  In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
  - paid additional fees
  - paid additional fees under protest
  - not paid additional fees
2.  This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
  - complied with
  - not complied with for the following reasons:

See supplemental sheet

4. Consequently, this opinion has been established in respect of the following parts of the international application:

- all parts
- the parts relating to claims Nos. 1-16

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY			International application No. PCT/EP2004/007924
Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement			
1. Statement			
Novelty (N)	Claims	1-15	YES
	Claims	16	NO
Inventive step (IS)	Claims	1-15	YES
	Claims	16	NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO
2. Citations and explanations:			
1) The subject matter of claim 16 is not novel (PCT Article 33(2))			
<p>Claim 16 relates to the compounds according to claim 14, which contains no proviso. This claim therefore encompasses the synthetic products generated in documents D2 and D3 and the pharmaceutical compositions in accordance with D4 (cf. D2: solution of compound 2b in water or acetic acid/ethanol; solution of compound 3b in chloroform or ethyl acetate/petroleum ether; D3: solution of compounds 11b-e in water or ethanol/glacial acetic acid; D4: cf. columns 54/55).</p>			
<p>1.1) As the result of the proviso, claims 1-13 are novel over documents D2-D4.</p>			
<p>2) The subject matter of claims 1-15 involves an inventive step (PCT Article 33(3)).</p>			
<p>D1 represents the closest prior art (cf. item IV).</p>			
<p>The subject matter of the present claim 1 differs from D1 by the substituted phenyl substituents on the naphthyridine ring.</p>			

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY		International application No. PCT/EP2004/007924
Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; <u>citations and explanations supporting such statement</u>	
<p>The technical problem of claims 1-13 is considered that of providing alternative fungicidal compounds. The relevant prior art does not mention the replacement of the alkyl or alkoxy radical R1 of D1 by a substituted phenyl radical; claim 1 therefore involves an inventive step.</p> <p>Claims 2-13 describe preferred embodiments and are therefore also inventive.</p> <p>Claims 14 and 15 relate to the use of the inventive compounds and therefore also involve an inventive step.</p>		

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITYInternational application No.  
PCT/EP2004/007924

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box IV

This Authority has established that the international application contains a plurality of inventions or groups of inventions which are not so linked as to form a single general inventive concept (PCT Rule 13.1), viz.:

I: Claims 1-16

II: Claim 17

The reasons are as follows.

D1 represents the closest prior art and discloses fungicidal naphthyridines.

The technical problem of claims 1-16 is considered that of providing alternative fungicidal compounds, whereas the problem of claim 17 addresses the provision of novel intermediates for the preparation of the compounds according to claim 1.

The compounds according to claim 1 differ from the compounds of D3 by the substitution pattern on naphthyridine ring (phenyl substituent in position 3 or 6).

The naphthyridine ring with phenyl substituent in said position is therefore considered an essential structural feature of the fungicidal compounds.

The intermediates according to claim 17 do not have this feature, there is therefore no technical relationship between the compounds according to claims 1 and 17 within the meaning of PCT Rule 13.2 which involves one or more of the same or corresponding special technical features.